



### Description

- Intertidal wetlands contain emergent, herbaceous vegetation, including both tidal and muted tidal marshes. Depending on location and interannual variations in rainfall and runoff, associated vegetation may include species tolerant or adapted to salt, brackish, or even tidal freshwater conditions.
- The marsh width may vary from a narrow fringe to extensive areas.
- Sediments are composed of organic muds except where sand is abundant on the margins of exposed areas.
- Exposed areas are located along bays with wide fetches and along heavily trafficked waterways.
- Sheltered areas are not exposed to significant wave or boat wake activity.
- Abundant resident flora and fauna with numerous species and high use by birds, fish, and shellfish.

### Predicted Oil Behavior

- Oil adheres readily to intertidal vegetation.
- The band of coating will vary widely, depending upon the water level at the time of oiling.
- Large slicks will persist through multiple tidal cycles and will coat the entire stem from the high-tide line to the base.
- Heavy oil coating will be restricted to the outer fringe of thick vegetation, although lighter oils can penetrate deeper, to the limit of tidal influence.
- Medium to heavy oils do not readily adhere to or penetrate the fine sediments, but can pool on the surface or in animal burrows and root cavities.
- Light oils can penetrate the top few centimeters of sediment; under some circumstances oil can penetrate burrows and cracks up to one meter.

### Response Considerations

- Under light oiling, the best practice is to let the area recover naturally.
- Natural removal processes and rates should be evaluated before conducting cleanup.
- Heavily pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore.
- Cleanup activities should be carefully supervised to avoid damaging vegetation.
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the plants and disturbance of soft sediments must be minimized.
- Aggressive cleanup methods should only be considered when other resources (migratory birds, endangered species) are at greater risk from oiled vegetation left in place.

Response Method	Oil Category				
	I	II	III	IV	V
<b>Oil Category Descriptions</b>					
I – Gasoline products					
II – Diesel-like products and light crudes					
III – Medium grade crudes and intermediate products					
IV – Heavy crudes and residual products					
V – Non-floating oil products					
<b>The following categories</b> are used to compare the relative environmental impact of each response method in the specific environment and habitat for each oil type. The codes in each table mean:					
A = The least adverse habitat impact.					
B = Some adverse habitat impact.					
C = Significant adverse habitat impact.					
D = The most adverse habitat impact.					
I = Insufficient information - impact or effectiveness of the method could not be evaluated.					
— = Not applicable.					
Natural Recovery	A	A	B	B	B
Barriers/Berms	B	B	B	B	B
Manual Oil Removal/Cleaning	D	D	C	C	C
Mechanical Oil Removal	D	D	D	D	D
Sorbents	—	A	A	A	B
Vacuum	—	B	B	B	B
Debris Removal	—	B	B	B	B
Sediment Reworking/Tilling	D	D	D	D	D
Vegetation Cutting/Removal	D	D	C	C	C
Flooding (deluge)	B	B	B	B	B
Low-pressure, Ambient Water Flushing	B	B	B	B	B
High-pressure, Ambient Water Flushing	—	—	—	—	—
Low-pressure, Hot Water Flushing	—	—	—	—	—
High-pressure, Hot Water Flushing	—	—	—	—	—
Steam Cleaning	—	—	—	—	—
Sand Blasting	—	—	—	—	—
Solidifiers	—	C	C	—	—
Shoreline Cleaning Agents	—	—	B	B	I
Nutrient Enrichment	—	A	B	B	B
Natural Microbe Seeding	—	I	I	I	I
In-situ Burning	—	B	B	B	C

Consult the *Environmental Considerations for Marine Oil Spill Response* document referenced on page 5 before using this table.